0011

March 4, 2003

TO: Internal File

THRU: Gregg Galecki, Hydrologist, and Team Lead

FROM: Joe Helfrich, Biologist

RE: Penta Creek Fee Lease, West Ridge Resources Inc., West Ridge Mine, C/007/041-IB03B

SUMMARY:

On February 7, 2003 West Ridge Resources Inc. submitted an incidental permit boundary change to add 75 acres of Penta Creek's land to their permit. The parcel is located in the NW1/4 of the SW1/4 and SW1/4 of the NW1/4 of section 18 in Township 14 South, Range 14 East. The parcel can be located on the Sunnyside quadrangle approximately 4 miles north of the Town of Sunnyside. Map 1-1 of the mining and reclamation plan identifies the location of the 75-acre parcel. Acquisition of the fee lease will extend the life of the mine to approximately 15 years. This memo will address the biology sections of the regulations.

TECHNICAL ANALYSIS:

GENERAL CONTENTS

MAPS AND PLANS

Regulatory Reference: 30 CFR 777.14; R645-301-140.

Analysis:

Revised maps 3-1, General Vegetation Communities, 3-4A, Raptor Survey, 3-4B, Wildlife deer range, 3-4C, Elk range, and 3-4D, Antelope ranges are included in the mining and reclamation plan. Each map includes the fee acquisition.

Findings:

The information provided is adequate to meet the requirements of this section of the regulations.

ENVIRONMENTAL RESOURCE INFORMATION

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR 783. et. al.

VEGETATION RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.19; R645-301-320.

Analysis:

Vegetation information is in Chapter 3, Section R645-301-321, Appendices 3-1, 3-5 and 3-8, and Maps 3-1, 3-2, and 3-3. A study of nonvascular plants in the Douglas fir/Rocky Mountain juniper area is in Appendix 3-8. Appendix 3-1 has a detailed vegetation study of the mine site, and a study of the potential topsoil borrow area is in Appendix 3-5. With the methods used for the vegetation studies, percentages of vegetative cover from both understory and overstory combined with litter, bare ground, and rock add to 100%. Plant communities in the fee lease acquisition include sagebrush/grassland, aspen and pinyon/juniper.

In addition to the detailed studies of the disturbed areas, the mining and reclamation plan includes a map showing vegetation communities in the entire permit area. There will be no surface disturbance associated with this parcel of fee land. Mining under 2,000' of cover in the northwestern ¼ of the parcel is projected for the year 2004. Subsidence may occur in that area and will be monitored, although it is not expected. Also, the permittee has committed to take aerial infrared photographs every five years to monitor the effects of underground mining on vegetation.

Although cryptogams are not vascular plants, and some are not even plants, they can be an important component of the ecosystem. However, establishment of cryptogams is not required as a revegetation success standard, and the Division does not normally require cryptogams cover information. Because cryptogams probably contribute to the success of other species, it is conceivable that it would be necessary to establish cryptogams to promote the growth of vascular species to the levels of the success standards. This is not anticipated. Appendix 3-8 shows cover from cryptogams in the disturbed and reference area for the Douglas fir/Rocky Mountain juniper community.

Findings:

The information provided is adequate to meet the requirements of this section of the regulations.

FISH AND WILDLIFE RESOURCE INFORMATION

Regulatory Reference: 30 CFR 784.21; R645-301-322.

Analysis:

Appendix 3-3 has a list of wildlife species potentially occurring in the fee area. Maps 3-4A, B,C, and D show information about raptor nests and deer, elk and antelope habitat.

There are no golden eagle, falcon, or buteo nests in or near the lease addition. Six eagle nests have been found in C Canyon, and there are several other raptor nests in and near the permit area. A peregrine falcon nesting territory has been found near the Centennial Project area, but it is more than ten miles from the permit area.

The lease area includes yearlong high value elk and deer critical summer habitat. Much of the permit area, not including the area that would be disturbed by surface operations, contains critical deer summer range. No pronghorn habitat is shown as being in the permit area.

The mining and reclamation plan says the permit area is in the southern part of Game Unit 27B and that this unit occupies the eastern half of Carbon County. The Division of Wildlife

Resources commented that it has changed the Game Management Unit numbers in the area of the West Ridge Mine. Presently, the area is in the Anthro/Range Creek herd unit #11.

About 360 species potentially exist in and near the permit area, and the permit includes relatively general information about several of these species. The only wildlife information gathered for the purpose of the permit is the raptor nesting information.

It is unlikely there are significant populations of bats in the area because there is no perennial source of water. Few cliffs will be affected by construction, and it is nearly impossible to survey for bats that roost in trees. In addition, the site does not contain habitat for species that have large, concentrated populations. Therefore, even if there are bats in the area, which is unlikely, they would be very difficult to find and only a few would potentially be lost. For these reasons, information about bats is not required.

The area contains habitat for passerine birds, but there are no sensitive species known to nest in the lease area. Even so, nearly all birds are protected.

There are several perennial springs within the lease area. The value for wildlife is somewhat restricted, and there are no fish that are likely to be affected. While snakes inhabit the area, there is no known critical habitat.

There will be no surface disturbance associated with this parcel of fee land. Mining under 2,000' of cover in the northwestern ¼ of the parcel is projected for the year 2004. Subsidence may occur in that area and will be monitored, although it is not expected. Impacts to wildlife should be negligible.

Findings:

The information provided is adequate to meet the requirements of this section of the regulations.

MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.24, 783.25; R645-301-323, -301-411, -301-521, -301-622, -301-722, -301-731.

Analysis:

Vegetation Reference Area Maps

The three reference areas are shown on Map 3-1, they include Pinyon/Juniper, Douglas Fir/Maple, and Douglas Fir/Rocky Mtn. Maple.

Findings:

The information provided is adequate to meet the requirements of this section of the regulations.

OPERATION PLAN

FISH AND WILDLIFE INFORMATION

Regulatory Reference: 30 CFR Sec. 784.21, 817.97; R645-301-322, -301-333, -301-342, -301-358.

Analysis:

Protection and Enhancement Plan

Surface water quality will be protected using sedimentation controls. The sediment ponds will be monitored for any adverse effects on wildlife, and these effects would be reported to the Division of Wildlife Resources. Should mining disrupt a seep or spring that was utilized by cattle or wildlife, the permittee would replace the quantity of water depleted from that source at a similar location unless the seep is restored naturally in a nearby area.

Power lines will be designed and installed using raptor-proof designs. Hunting platforms could be installed on select poles.

Areas within the permit area containing potential raptor nesting habitat will be surveyed in the field within one year of any mining activity that could result in subsidence. Should any nests be found, the permittee would consult with the Division, the Division of Wildlife Resources, and the Fish and Wildlife Service. No surface disturbance or mining activities are planned for the proposed lease area.

Some of the greatest effects on wildlife would be from the road. While it does not appear the Division will have jurisdiction over most of the road, drivers need to be instructed on the importance of maintaining a proper speed through the area and of removing any big game animals killed as far as possible from the road. Killed animals should also be reported to the Division of Wildlife Resources.

Removing these carcasses or keeping them as far away from the road as possible can reduce the risk of collisions with eagles, other raptors, and vultures.

The permittee has committed to conduct wildlife education session for its and its contractors' employees. Conflicts with wildlife can be avoided through knowing what actions may be detrimental or beneficial.

Endangered and Threatened Species

The mining and reclamation plan contains a letter from the Fish and Wildlife Service identifying eight listed and candidate threatened or endangered species that could occur in Carbon County. It also quotes a letter from the Fish and Wildlife Service written for the West Ridge Project Environmental Analysis. According to the mining and reclamation plan, this letter says no federally listed species are known to occur in the project area.

The only species likely to occur in the permit area are the bald eagle and peregrine falcon. There are only four known bald eagle nests in Utah, and the closest is near Castle Dale. Most bald eagles in Utah spend the winter but do not breed here.

As discussed above, a peregrine falcon nesting territory has been found in the Book Cliffs more than ten miles from the mine site, but no active nests were found within ½ mile of the proposed lease area during the 2002 raptor survey.

Although there are no fish in the permit area, the mine has a potential, through water depletion, of adversely affecting threatened or endangered fish of the Upper Colorado River. This issue is addressed as part of the fish and wildlife protection plan.

The letter from the Fish and Wildlife Service includes Graham beardtongue (*Penstemon grahamii*) as a candidate species that occurs in Carbon County. According to Ben Franklin of the Utah Natural Heritage Program, there is a historical collection of this species in the extreme northeastern corner of the county a few hundred feet from the county line. It is an endemic that occurs almost exclusively on the Green River formation in Uintah and Duchesne counties. There is virtually no likelihood the mine or proposed lease addition would affect this species.

Canyon sweet vetch is no longer a candidate threatened or endangered plant species, but it is on the Bureau of Land Management's list of sensitive species. It is relatively common in the area of the mine as documented in the vegetation studies.

The mining and reclamation plan says the burrowing owl is not expected to be found within the permit area as they use prairie dog burrows as nest sites; however, the Fish and Wildlife Service commented that they also use badger and marmot burrows for their nest sites. It is not anticipated, though, that the lease area contains suitable habitat.
No surface disturbance or mining activities are planned for the proposed lease area.

Bald and Golden Eagles

The only species likely to occur in the permit area are the bald eagle and peregrine falcon. There are only four known bald eagle nests in Utah, and the closest is near Castle Dale. Most bald eagles in Utah spend the winter but do not breed here.

As mentioned above, there are six golden eagle nests in C Canyon near the mine. Five are in the right fork, but the mine site is not visible from them. In addition, the closest part of the mine surface facilities to the nests is the topsoil pile where there should be little activity. Therefore, a buffer zone was established in the vicinity of these nests where no surface mining activities should occur.

In the left fork of the canyon is a nest that was inactive in 1981, 1997 and 1998, and much of the mine site is within one-half mile of this nest. The mining and reclamation plan states that this nest would be considered abandoned under Bureau of Land Management guidelines and that no take permit is necessary. In a letter dated October 15, 1998, the Division of Wildlife Resources concurred with this assessment.

As mining begins, the permittee would need to continue to monitor the nests in the area and may need to obtain take permits. It may also be necessary to preclude birds from nesting in particular places because of the potential of losing the nests through cliff spalling or other results of subsidence. At other mines, chain link fencing material has been put over nests to keep birds away.

Through water use, the mine has the potential of adversely affecting threatened and endangered fish of the Upper Colorado River. In Appendix 7-7, the mining and reclamation plan includes estimates of how much water will be used, and it is less than one hundred acre feet per year. Above one hundred-acre feet per year, the Fish and Wildlife Service would require a mitigation fee. A final determination of effect will need to be made by the Office of Surface Mining, Reclamation and Enforcement in consultation with the Fish and Wildlife Service.

The site for potential topsoil borrow is in critical deer winter range, and the permittee has committed to perform mitigation work if the site is ever used. Because the site may not be disturbed, it is not necessary to perform the mitigation or pay for it now.

The Division requires enhancement or avoidance for areas of critical habitat, but it is understood the Bureau of Land Management requires mitigation for areas of high priority habitat as well. The lease area is in high priority habitat. However no surface disturbance or mining activities are planned for the proposed lease area.

Wetlands and Habitats of Unusually High Value for Fish and Wildlife

There are no wetlands within the proposed lease area. In addition there are no surface disturbance or mining activities are planned for the lease area.

Findings:

The information provided is adequate to meet the requirements of this section of the regulations.

VEGETATION

Regulatory Reference: R645-301-330, -301-331, -301-332.

Analysis:

Vegetation information is in Chapter 3, Section R645-301-321, Appendices 3-1, 3-5 and 3-8, and Maps 3-1, 3-2, and 3-3. A study of nonvascular plants in the Douglas fir/Rocky Mountain juniper area is in Appendix 3-8. Appendix 3-1 has a detailed vegetation study of the mine site, and a study of the potential topsoil borrow area is in Appendix 3-5. With the methods used for the vegetation studies, percentages of vegetative cover from both understory and overstory combined with litter, bare ground, and rock add to 100%. Plant communities in the fee lease acquisition include sagebrush/grassland, aspen and pinyon/juniper.

In addition to the detailed studies of the disturbed areas, the mining and reclamation plan includes a map showing vegetation communities in the entire permit area. There will be no surface disturbance associated with this parcel of fee land. Mining under 2,000' of cover in the northwestern ¼ of the parcel is projected for the year 2004. Subsidence may occur in that area and will be monitored, although it is not expected. Also, the permittee has committed to take aerial infrared photographs every five years to monitor the effects of underground mining on vegetation.

Findings:

The information provided is adequate to meet the requirements of this section of the regulations.

RECLAMATION PLAN

PROTECTION OF FISH, WILDLIFE, AND RELATED ENVIRONMENTAL VALUES

Regulatory Reference: 30 CFR Sec. 817.97; R645-301-333, -301-342, -301-358.

Analysis:

Should mining disrupt a seep or spring that was utilized by cattle or wildlife, the permittee would replace the quantity of water depleted from that source at a similar location unless the seep is restored naturally in a nearby area.

Areas within the permit area containing potential raptor nesting habitat will be surveyed in the field within one year of any mining activity that could result in subsidence. Should any nests be found, the permittee would consult with the Division, the Division of Wildlife Resources, and the Fish and Wildlife Service. No surface disturbance or mining activities are planned for the proposed lease area.

The permittee has committed to conduct wildlife education session for its and its contractors' employees. The lease area is in high priority habitat for deer and elk. However as no surface disturbance or mining activities are planned for the proposed lease area no reclamation activities are planned either.

Findings:

The information provided is adequate to meet the requirements of this section of the regulations.

REVEGETATION

Regulatory Reference: 30 CFR Sec. 785.18, 817.111, 817.113, 817.114, 817.116; R645-301-244, -301-353, -301-354, -301-355, -301-356, -302-280, -302-281, -302-282, -302-283, -302-284.

Analysis:

Revegetation: General Requirements

The revegetation plan is primarily in Section R645-301-341of the regulations. Three revegetation scenarios are shown in the MRP, one for areas where topsoil would be salvaged and

redistributed, one for areas with topsoil that is covered with a geotextile, and one for rock/rubbleland areas. In the rock/rubbleland areas, there are a few areas where topsoil would be salvaged and later replaced. There is no disturbance planned for the fee lease parcel. Therefore the described scenarios only apply to those areas scheduled for reclamation. In the unlikely event the permittee should disturb the fee lease area at some point in time the following scenario would apply:

Revegetation: Timing

Once the site is prepared by grading and replacing topsoil, removing fill, or removing fill and the geotextile, the same revegetation techniques will be used for the entire area. This sequence is:

1. A weed-free alfalfa hay mulch would be applied at the rate of 2000 pounds per acre, and fertilizer would be added if deemed necessary.

2. The surface will be gouged.

3. The seed mix will be broadcast seeded or hydro seeded.

4. The area will be mulched with 2000 pounds per acre of straw, and a wood fiber mulch and tackifier will be applied.

The information in Appendix 5-5 and Map 5-12 indicates that revegetation will occur after grading and surface preparation operations are complete. It is best to seed an area as soon after grading as possible since the soil tends to crust within a few days and not allow good contact between the seed and soil. Also, leaving the soil exposed with no mulch could create erosion problems. The permittee plans to seed as soon after grading as possible.

The permittee has committed to place large rocks on regraded areas to increase landscape diversity. In addition to making the site look more natural, these will serve as wildlife habitat and provide a greater diversity of sites for different plant species. They create localized areas of concentrated runoff and cooler temperatures where species can become established that would not survive if the site was uniform.

The seed mixes to be used in final reclamation are in Tables 3-2A, B, C, and D. Yellow sweet clover is the only species in the mixes not native to Utah, and it serves to help reestablish microorganisms. It also competes with weeds during early stages of revegetation.

The permittee has included several species encountered in vegetation sampling that should increase vegetation diversity of the revegetated areas. Seed of all these species is available commercially, but some must be hand-collected.

Wildlife Resources suggested that winterfat be added to the seed mixture at one pound of pure live seed per acre. Winterfat is adapted to the site, but adding this one species is not essential to achieving reclamation success.

Douglas fir would be planted in Douglas fir/Rocky Mountain juniper areas both from seed and transplants. Since Douglas fir is a common tree grown for timber, it is likely that plants inoculated with ectomycorhizae are available commercially, and the permittee has committed to attempt to use inoculated plants.

Studies have documented that populations of microorganisms in stockpiled soil decrease with time and depth in the stockpile. At the West Ridge Mine, soil that is stockpiled or under fill is likely to have very few living microorganisms when the mine is reclaimed. In addition, cover from cryptogams, including liverworts, mosses, lichens, and cyanobacteria, will be destroyed.

Most perennial plants form symbiotic relationships with various species of fungi that allow the plants to take up more water and nutrients from the soil. This allows them to better compete with non-mycorhizal species, especially weeds. Also, there is evidence that cryptogams decrease soil erosion and increase the amounts of some nutrients in the soil.

Cryptogams have not traditionally been considered “vegetation” that is required for bond release; however, they may be important for other reasons. Soil inoculation to try to establish cryptogams and vesicular arbuscular mycorhizae has been tried in a few areas, but there has been little work on coal mines in Utah. Because the efficacy of inoculation is not known, the permittee has to inoculate the topsoil pile test plot with soil from the surface of the topsoil pile. While this type of technique may be needed for final reclamation, it is not being required at this time.

The permittee does not intend to irrigate but, instead, will use water harvesting methods. Irrigation should not be necessary at this site.

Pesticides will only be used if a problem is identified and spraying is deemed necessary to control damage to reclamation. The area does not have heavy infestations of noxious weeds, so it is not anticipated herbicides will be needed. The use of other pesticides would depend on what problems are encountered, but none are foreseen.

Revegetation: Mulching and Other Soil Stabilizing Practices

This section is described below under Stabilization of Surface areas.

Revegetation: Standards For Success

As discussed in the vegetation information section, there are few differences between the reference areas and the disturbed areas. The only significant difference where the reference area has less cover than the disturbed area is in the Rocky Mountain juniper/Douglas fir community. The vegetative cover values were statistically different at 90% but not at 95% confidence. Constructing a 90% confidence interval allows 66.53% cover, and the actual value is 66.00%. If one performs a natural logarithm transformation of the data, there is no statistical difference.

Other than cover, every aspect of the reference and disturbed areas in the Rocky Mountain juniper/Douglas fir community is the same or very similar, including species composition, aspect, slope, soils, productivity, and range condition. Considering there is no difference in cover if one does a natural log transformation of the data, it is felt the similarities outweigh the one possible difference in this case, and the difference is felt to be minor if it exists.

The Douglas fir/maple reference area is shown on Map 3-1, but the mining and reclamation plan does not include quantitative data about this area. Without the data, it is impossible to compare the reference area to disturbed areas to determine whether it is applicable, and it is impossible to approve it as a revegetation success standard.

Diversity will be measured using MacArthur's diversity index. The mining and reclamation plan gives a brief discussion of this index, and it is an acceptable means of measuring diversity. It has been used in at least two other coal mines in Utah.

Erosion control would be judged using the "Erosion Condition Classification System" originally developed by the Bureau of Land Management and modified by the Office of Surface Mining. Reclamation would be considered successful if soil surface factor values were the same as or lower in the reclaimed areas as in adjacent undisturbed areas.

With the exception of one succulent and one stonecrop species, it appears all species encountered in vegetation sampling are cool season. The two CAM species are relatively insignificant and are not desirable. Therefore, the only standard needed for seasonality is that all plants would be cool season. This should be easy to achieve since the warm season plants are normally the difficult ones to establish.

For areas with a postmining land use of wildlife habitat, the Division is required to consult with State wildlife agencies and gain approval for tree and shrub establishment success standards. The Division has consulted with the Division of Wildlife Resources and developed standards. These are based primarily on existing conditions and take into account the species that contribute to the woody plant densities in the various areas. In the sagebrush/grass area, the numbers of woody plants in both the disturbed and reference areas are considered excessive. The established standards are included in the mining and reclamation plan.

Table 3-4 of the mining and reclamation plan is a revegetation monitoring schedule. Qualitative observations would be done every year after seeding, but quantitative observations would be done only in the years specified. The monitoring schedule is considered adequate.

In Sections 341.300 and 342.100, the mining and reclamation plan indicates native species have become reestablished in disturbed areas without seed or mulch mining and reclamation plan or surface preparation. While the Division does not know precisely what reclamation efforts have been undertaken in this area, there are stands of introduced grasses that have the appearance of having been seeded. Nevertheless, it appears revegetation of this site will be feasible. Nearby sites with less precipitation, such as Horse Canyon, have had good revegetation success.

Field Trials

Section 341.300 has a brief description of the plan for test plots, but a more detailed description is in Section 231.300. Section 341.300 indicates the seed mixture for the Douglas fir/maple community should be used on the test plots, and this implies it would also be used for the test plots.

The topsoil stockpile will be used for test plots. During construction of the topsoil pile, geotextile will be placed in the area where one of the test plots will be. Enough material will be placed over the geotextiled area to simulate the amount of fill that will be on the experimental practice area. After about five years, soil over the geotextile will be removed and placed in a 12-18 inch lift on another part of the topsoil pile. The purpose of these treatments is to simulate the experimental practice area and topsoil salvage and replacement.

Half of each of these plots would be treated with a 2-3 inch layer of soil from adjacent topsoil stockpile areas. This is intended to show whether inoculation with a native soil material benefits plant establishment and growth. This treatment is not part of the current reclamation plan and should be deleted from the field trials. If this method was used for final reclamation in the experimental practice area, it would necessitate disturbing additional areas that would then not have the same microbial element as the reclaimed site.

In the experimental practice area, native soil should be mixed with the medium for transplants. There are methods of culturing the inoculum in a greenhouse and distributing it. Some commercial inocula are available as is a product marketed as a stimulant for microorganisms. The mining and reclamation plan discusses these methods and one is included in the plan for the test plots.

The test plots will then be seeded and mulched as shown in the plan for final revegetation. This will include seeding with canyon sweet vetch. Other techniques in the final reclamation plan, include applying alfalfa hay as a soil amendment and gouging.

Monitoring will proceed for five years or until a determination of success has been made and will compare the test plots with each other and with the Douglas fir/maple reference area. If the results show a need to revise the revegetation plan, the permittee will work with the Division to amend the plan and incorporate needed changes.

Table 3-4 shows a monitoring schedule that includes quantitative observations over the five-year period. Using cover measurements, it will be possible to compare vegetation diversity in the different areas. This schedule is considered adequate.

Wildlife Habitat

Plant species in the seed and planting mixtures were selected on the basis of forage nutrition and cover values and adaptability to the environment. While the species in the seed mixtures are not all identical to those currently existing on the site, they are similar and may enhance the value of vegetation for wildlife. Rocks to be used in reclamation will also create wildlife habitat although it will not be to the degree that currently exists on the site.

The mining and reclamation plan says Appendix 3-6 contains comments from the Division of Wildlife Resources about additional wildlife enhancement measures and that the permittee has incorporated several of their suggestions in the permit mining and reclamation plan package. Appendix 3-6 does not contain comments from Wildlife Resources, and the Division will need to receive comments about what habitat enhancement opportunities are available for this site.

The permittee has committed to do off-site mitigation in the form of either shrub plantings or installation of a guzzler. According to the mining and reclamation plan, Wildlife Resources and the BLM are supportive of these options. The permittee worked with these two agencies on plans for the mitigation. An outline of the mitigation measures is included in the mining and reclamation plan.

Findings:

The information provided is adequate to meet the requirements of this section of the regulations.

STABILIZATION OF SURFACE AREAS

Regulatory Reference: 30 CFR Sec. 817.95; R645-301-244.

Analysis:

The plan for interim revegetation is to seed the mixture shown in Table 3-3 in late fall or early spring on topsoil stockpiles and regraded slopes. Among the areas that would be seeded are the outslopes of the sediment pond, fill slopes, and side slopes. The proposed lease area will not be disturbed. Therefore no seeding is anticipated.

Alfalfa is the only introduced species in this seed mixture, and it is not expected to spread inordinately or to dominate the other vegetation. The species in this mixture should provide good erosion protection.

In areas where the interim seed mixture will be used, the soil surface will first be roughened or gouged. Fertilizer would be applied if necessary and the area seeded in late fall or early spring. The interim seed mixture will be hand broadcast and the areas raked to cover the seed. Straw mulch would then be spread with a mulch and tackifier applied over the straw in larger areas such as the topsoil stockpile.

Findings:

The information provided is adequate to meet the requirements of this section of the regulations.

Revegetation and Restoration of Soil Productivity

The revegetation plan is primarily in Section R645-301-341 of the regulations. Three revegetation scenarios are shown in the MRP, one for areas where topsoil would be salvaged and redistributed, one for areas with topsoil that is covered with a geotextile, and one for rock/rubbleland areas. In the rock/rubbleland areas, there are a few areas where topsoil would be salvaged and later replaced. There is no disturbance planned for the fee lease parcel. Therefore the described scenarios only apply to those areas scheduled for reclamation. Should the permittee disturb the fee lease area at some point in time the following scenario would apply:

Once the site is prepared by grading and replacing topsoil, removing fill, or removing fill and the geotextile, the same revegetation techniques will be used for the entire area. This sequence is previously described in the **Timing** section under **Revegetation.**

Findings:

The information provided is adequate to meet the requirements of this section of the regulations.

RECOMMENDATIONS:

The application is recommended for approval.

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